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**An evaluation of spirituality and substance use: Definitions, measures,  
and research**

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**An evaluation of spirituality and substance use: Definitions, measures,  
and research**

**by**

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**Report**

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## **Abstract**

### **An evaluation of spirituality and substance use: Definitions, measures, and research**

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The focus of this report is on exploring and clarifying research in the areas of spirituality and substance abuse. In terms of their definitions, these constructs, *spirituality* and *religiosity*, have been the subject of debate among researchers. The measurement of spirituality/religiosity and substance abuse has been inconsistent from study to study. Conflicting results are reported in the research evaluating the relationship between spirituality/religiosity and substance abuse, and in intervention studies that have employed treatment methods such as meditation and prayer. However, studies comparing spiritual interventions have yet to be conducted. In this report I review and critique the literature and provide guidelines for future research.

## Table of Contents

Chapter 1 INTRODUCTION.....	1
Chapter 2 ADDICTION DEFINITIONS AND MEASURES.....	4
Definitions.....	4
Measures .....	7
DSM-IV .....	7
Self-Report Questionnaires.....	9
Addiction Severity Index .....	10
Drug Screens and Analysis .....	12
Conclusion .....	13
Chapter 3 SPIRITUALITY/RELIGION DEFINITIONS AND MEASURES .....	14
Definitions.....	14
Spirituality.....	14
Spirituality versus Religion.....	16
Summary.....	18
Measures of Spirituality and Religiosity.....	19
Religious Scales .....	18
Summary .....	24
Spiritual Scales.....	24
Summary.....	36
Categories Relating Religiosity to Spirituality .....	36
Conclusion .....	38
Chapter 4 RELATING SPIRITUALITY TO ADDICTION AND TREATMENTS OF ADDICTION .....	40
Spirituality and Religiosity Research.....	40
Summary .....	44
Meditation and Prayer Research .....	45
Definitions.....	45

Mindfulness-Based Research.....	46
Summary .....	51
Prayer Based Research.....	51
Summary .....	54
Conclusion. ....	55
Chapter 5 DISCUSSION AND CONCLUSION .....	56
Discussion .....	56
Issues.....	58
Conclusion .....	59
REFERENCES .....	60

# **Chapter 1**

## **Introduction**

National Institute on Drug Addiction (NIDA) defines addiction as a “chronic, relapsing brain disease that is characterized by compulsive drug seeking and use, despite harmful consequences. It is considered a brain disease because drugs change the brain - they change its structure and how it works. These brain changes can be long lasting, and can lead to the harmful behaviors seen in people who abuse drugs” (NIDA, 2010, p. 5). Addiction affects over 23.5 million (9.3%) individuals 12 and older, of whom only 2.6 million (11.2 %) received treatment (SAMH, 2010). The Office of Juvenile Justice and Delinquency Prevention reported that “Research has long shown that the abuse of alcohol, tobacco, and illicit drugs is the single most serious health problem in the United States, straining the health care system, burdening the economy, and contributing to health problems and the death of millions of Americans every year. Today, substance abuse causes more death, illnesses, and disabilities than any other preventable health condition” (Ericson, 2001).

NIDA (2010) advocates addiction treatment therapies that promote healthy adaptive behaviors and enhances the effectiveness of medical treatment. The most valuable therapies treat the whole person, addressing deeply embedded behaviors and issues encountered in daily living (NIDA, 2010). Religious/spiritual practice has been attributed as an important factor in moderating alcohol and drug abuse for over 100 years

at little or no cost (Shorkey & Windsor, 2010). In a cross-sectional study by Laudet and White (2008), spirituality positively affected coping skills, hope, security, and stability.

In a meta-analysis by Chitwood, Weiss, and Leukfeld (2008), 99 out of 105 publications reviewed found religiosity reduced the risk of substance use (Chitwood et al., 2008). Geppert, Bogenschutz, and William (2007) conducted a similar meta-analysis and reported that the majority of studies found a negative correlation between religiosity and substance use. Geppert et al. (2007) also reported that few studies found no significant relationship between religiosity/spirituality and substance use. Descriptive studies were more prevalent than empirical studies (Geppert et al., 2007). The majority of the research consisted of cross-sectional studies measuring religiousness/religious affiliation and substance abuse. These studies found an inverse relationship between religiosity and substance use with a small to medium effect size (Geppert, 2007). The spiritual practice of Transcendental Meditation and Mindfulness-Based Meditation comprised the large majority of empirical research studies (Geppert, 2007). Meditation was found to reduce substance use with a small to medium effect size (Geppert 2007).

In recent years, NIDA's interest in the role of spirituality in addiction recovery has increased the body of research in this area (Shorkey and Windsor, 2010). Spiritual transformation is seen as an important component of recovery by researchers, professionals, and the individuals who have successfully recovered (Shorkey & Windsor, 2010). According to a recent study by Miller, Forcehimes, O'Leary, and LaNoue, 2008, 95% of patients were receptive and eager to participate in spiritual counseling. They believed that resolving their spiritual problems would positively relate to their recovery.



Researchers have struggled to define and quantify the terms spirituality and religiosity. Spirituality is commonly defined as one's internal and individual connection to the transcendent, and religion is commonly defined as the external and communal expression of one's spirituality. Spirituality and religiosity have been quantified by a variety of measures creating discrepancies in research findings. These discrepancies make comparisons between studies difficult, but not impossible. Discrepancies also exist in the literature in the assessment of symptoms related to substance abuse. Frequently, researchers use brief self-report surveys to measure substance use, leaving the severity of symptoms unmeasured. The purpose of this report is to clarify discrepancies and summarize research findings in the field of spirituality and substance abuse.

In the second chapter of this report, I will discuss the definition of addiction and review instruments commonly used to measure substance use. In Chapter 3, I will examine and clarify definitions of spirituality and religiosity. Then, I will review measures of religiosity and spirituality. In Chapter 4, I will briefly evaluate descriptive studies correlating measures of spirituality and religiosity to substance use. Then, I will examine descriptive studies and empirical studies that measure the effects of common spiritual practice (meditation and prayer) on substance use. The final chapter will summarize research findings, make recommendations for future research, and discuss issues regarding spiritual beliefs and substance use.

## **Chapter 2**

### **Addiction Definitions and Measures**

In this chapter, several definitions of addiction will be discussed. The definition of addiction widely used and accepted by the National Institute on Drug Addiction (NIDA) will be reviewed. The clinical and quantifiable definition of addiction according to the Diagnostic and Statistical Manual of Mental Disorders, 4th (DSM-IV, 2000) will also be discussed. The most widely utilized measures of addiction will be reviewed. An overview of each instrument including the advantages and limitations of each measure will be presented.

#### **Definitions**

The term addiction has been used synonymously with substance abuse and substance dependence. The terms are used interchangeably in the literature and in this report. NIDA defines addiction as a “chronic, relapsing brain disease that is characterized by compulsive drug seeking and use, despite harmful consequences. It is considered a brain disease because drugs change the brain - they change its structure and how it works. These brain changes can be long lasting, and can lead to the harmful behaviors seen in people who abuse drugs” (NIDA, 2010, p. 5). NIDA’s definition of addiction could be simplified to biological disease that drives behavior.

The Diagnostic and Statistical Manual of Mental Disorders, 4th Edition (DSM-IV) published by the American Psychiatric Association (2000) defines all recognized mental health disorders. The DSM-IV defines addiction using terms such as *substance abuse*

and *substance dependence*. *Substance abuse* is classified as “a maladaptive pattern of substance use, leading to clinically significant impairment or distress, as manifested by two (or more) of the following, occurring at any time in the same 12 months: 1) tolerance; 2) withdrawal; 3) the substance is often taken in larger amounts or over a longer period than was intended; 4) there is a persistent desire or unsuccessful effort to cut down or control substance use; 5) a great deal of time is spent in activities necessary to obtain the substance, use the substance, or recover from its effects” (DSM-IV-TR, 2000, p. 199). Leshner (1999) further defined *substance abuse* as the use of any substance at a level high enough to develop one or more of the related diseases or behaviors such as habituation or addiction. In summation, substance abuse is associated with a preoccupation with the substance, negative physical symptoms, and negative behaviors.

*Substance dependence* as defined by the DSM-IV is classified by the manifestation of at least three of symptoms listed above under substance abuse with the addition of two new symptoms “6) important social, occupation, or recreational activities are given up or reduced because of substance use; 7) substance use is continued despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by the substance” (DSM-IV-TR, 2000, p. 197). Leshner (1998) expounds on this definition. He stated that *substance dependence* is not caused by being weak or a bad person. It is a brain disease causing dysfunction and long term damage at the molecular, cellular, structural, and functional level. Individuals with substance dependence need and deserve treatment.

Therefore, *substance dependence* is a serious disease; the negative effects are not only physical and behavioral, they affect all aspects of the individual's life. *Substance abuse* is a lesser form of the same disease as abusers have not experienced as much collateral damage. Regardless of the severity of the illness, addiction is a medical condition in need of treatment. The longer it goes untreated, the more likely the individual is to develop chronic relapsing, long term brain damage, and negative behaviors changes affecting all areas of his/her life.

Sussman, Skara, and Ames (2008) critiqued the DSM-IV's definition of substance use/abuse. They argued that adolescent substance use/abuse is under-diagnosed, making the following six point argument: 1) regular use may or may not be considered abuse in adults, but it might be in youth due to the potential of regular use to interfere with brain development and growth rate; 2) adolescents may exhibit less physical dependence and fewer physical problems related to substance use; 3) high-risk situations may differ between adolescents and adults, in particular; adolescents may not be responsible for caring for others; 4) teens have high rates of dual diagnosis with mental health disorders; 5) adolescents are less likely to seek treatment and relapse more quickly than adults after treatment is received; and 6) teens suffer social consequence specific to adolescence, such as problems in school. They are less likely to suffer great financial losses, but may fail to learn the necessary skills required for financial growth (Sussman et al., 2008). These factors are relevant to the diagnosis and treatment of adolescents given the statistics reported by the Office of Applied Studies (2002). They stated that only 10% of the estimated 1.4 million teens with an illicit drug problem are receiving treatment

compared to 20% of adults. The number of reported teens with drug problems could increase dramatically following the DSM-IV modifications suggested by Sussman et al. (2008).

## **Measures**

A variety of measures are used to classify and quantify addiction for the purpose of research including: meeting the DSM-IV criteria for dependence, self-report substance abuse surveys, the Addiction Severity Index (ASI), and urine analysis. Self-report is the most commonly applied measure even though no standard instrument of self-report is used across the board. The Addiction Severity Index is a reliable and valid measure that is widely accepted, but less frequently used. Researchers and treatment programs often combine self-report questionnaires and urine drug screens to measure abstinence rates. Self-report questionnaires are less expensive, but clients often have motivation to give false information. Therefore, it is common for both instruments to be applied.

**DSM-IV.** The DSM-IV is accepted and used extensively in psychiatric hospitals. It is less frequently used in research and substance abuse treatment programs. Some studies require that all participants have met the DSM-IV criteria for substance dependence. The DSM-IV is administered by trained personnel using structured clinical interview methods. The information used to derive DSM-IV diagnosis can come from a variety of sources. The main source is self-report, but a patient's medical/psychiatric records or third party information can be utilized. The DSM-IV is widely used in medicine and psychiatry.

Petry, Lewis, and Ostvik-White (2008) only enrolled participants who met DSM-IV criteria for substance dependence. The interview was conducted by trained research assistants at baseline (but not administered at any other time during the study). This is not the common practice in this area of research. Researchers rely heavily on self-report measures because these measures are less expensive and less time consuming (self-report measure do not require a trained research assistant).

Petry et al. (2008) do not specify the reason for administering the DSM-IV exclusively at baseline. In most cases, it would not be efficient to re-administer the interview upon program completion. In-patient treatment programs frequently require abstinence during treatment and drop incompliant persons from their programs. Patients are also isolated from the outside world with all its stresses and temptations; therefore, no new information would be gathered and individuals would only meet criteria for past dependence. However, it would be useful to administer the DSM-IV at 6-month and 12-month follow-ups. Participants may have relapsed, but experience far less severe symptoms since treatment. This would indicate a degree of treatment success and hope for the future.

In summation, the DSM-IV is a stable well-established clinical measure able to distinguish substance abuse from substance dependence. It is advisable to administer the measure at the onset of each research study. This would allow researchers to standardize the definition of *substance abuse* and substance dependence and to factor out any differences in treatment results explained by differences in criteria met for abuse versus dependence. For example, some facilities may have higher success rates because their

patient population is mainly comprised of substance abusers. In addition, conducting DSM-IV interviews months or years after program completion may reveal that although individuals are still using drugs, they have down graded from substance dependence to substance abuse.

***Self-Report Questionnaires.*** Researchers in the area of substance abuse typically rely on self-report measure to assess alcohol and drug abuse (Murphy, Hser, Huang, Brecht, &, Herbeck, 2010). The majority of the research studies reviewed in this report (four out of six) used self-report questionnaires to establish substance abuse; and (two out of six) used self-report and urine drug screens (update after add new studies). Self-report measures ask individuals the date, frequency, or characteristic of personal events (Murphy et al., 2010). Frequently, questionnaires are divided into three time segments: life-time, past 6 months, and past 30 days (Staton-Tindall et al., 2008).

The specific questions asked in self-report questionnaires are frequently unreported. Staton-Tindall et al. (2008) merely stated that lifetime use was measured by a dictomounus variable a “yes” and “no” question. Six month use was measured by using categorical variables: no use, used monthly, and used weekly. Past 30 days use was measured by asking the individuals to report the total number of day used. The questionnaire itself is not available. Flynn, Joe, and Broome (2003) stated that drug use history was collected at the initial phase of intake, with no additional details mentioned. These questionnaires may be intuitive, but there seems to be a need to publish the questionnaire for consistency of use and clarity of interpretation of results. The information gathered in the questionnaire dictates the type of analysis conducted. For example, the type of analysis can

conduct using Likert scale items differs from the type of analysis used for dichotomous variable (such as yes and no responses). Analysis would also vary depending on the time intervals gathered: past 30 days and lifetime versus past 30 days, past 6 months, and lifetime. The ability to use ratings for item responses and multiple time points for items each allows for more detailed comparisons between persons in treatment and overall treatment outcome.

Self-report measures are subject to reporting bias for current substance use with over-reporting to gain admissions to treatment and under-reporting when it comes in to legal issues (Murphy et al., 2010). Self-report measures for previous substance use are subject to errors in retrospective recall but are more likely to elicit an honest response (Murphy et al., 2010). Nonetheless, self-report measures are considered accurate in determining abstinence when compared to urine drug screens (Murphy et al., 2010) and are used by researchers across the board.

***Addiction Severity Index.*** The Addiction Severity Index is a widespread measure in existence for over 30 years (Alterman, Habing, Cacciola, & Lynch, 2007). It is one of the most widely used substance abuse instruments, particularly in addiction treatment and research (McLellan, Cacciola, Alterman, Rikoon, & Carise, 1985). It is a semi-structured interview requiring a trained administrator and lasting 45-60 minutes. The ASI quantifies substance use by reporting the severity of addiction and length of time these symptoms have been experienced. The instrument measures seven domains: alcohol use, drug use, medical, psychiatric, health, employment, support, family/social relations, and illegal activity. These domains are measured for two time periods, past 30 days and lifetime.



In a study by Murphy et al. (2010), the UCLA Natural History Interview (NHI) and the ASI were administered to 301 individuals, three times over three years. The patterns of drug use were consistent across instruments, supporting their reliability for longitudinal examination of self-report drug use (Murphy et al., 2010).

The ASI is reported to have a standardized Cronbach alpha of .89 for alcohol and .79 for drug scales; and internal consistency rating of .87 for alcohol and .62 for drugs (Appleby, Dyson, Altman, & Luchins, 1997). Self-report methods are comparable to urine analysis with congruence scores between 70.6% to 97.1% (Murphy et al., 2010). Although the ASI is considered the gold standard, there is some difficulty with responses to drug types that change meaning over time, like cocaine and amphetamines (Murphy et al., 2010). The NHI was reported to be more flexible for changes in the meaning for drug types.

In summary, the ASI is a well established semi-structured interview that quantifies substance abuse. The ASI, like the DSM-IV, measures the dimensions of one's life that are affected by addiction (medical, psychiatric, health, employment, support, family/social relations, and illegal activity). These dimensions are measured for current dependence, past dependence, and functional impairments. Application of the ASI is limited by the cost and time required for administration, as well as reporting bias and changes in drug terminology. However, the benefits outweigh the limitations as the ASI seems to represent a reliable measure able to rate the severity of addiction. This type of rating enables a researcher to maximize the variation explained in treatment outcomes

above and beyond the categories of substance use defined by the DSM-IV and simplistic self-report measures.

***Drug Screens and Analysis.*** Urine screens are the most commonly utilized biological method for detecting drug use. The typical detection window is 1-3 days for most substances (Dolan, Rouen, & Kimber, 2004). Most illicit drugs have the highest concentration within 48 hours of oral administration and 6 hours of intravenous use or inhalation (Dolan et al., 2004). Urine screens fall under two categories, laboratory and on-site tests. The accuracy of on-site tests is comparable to lab tests, but on-site tests are generally more expensive (Dolan et al., 2004). Two types of errors are possible with any urine analysis, a false-positive (incorrectly detecting the presence of a drug) and a false-negative (failing to detect the presence of a drug). Drug screens are designed to detect the lowest concentration of a drug that can be reliably detected (Dolan et al., 2004). Tampering can be prevented through supervised urine collection (Dolan et al., 2004). Urinalysis and other biological tests pose extra financial burdens and cannot be administered retrospectively like self-report measures (Murphy et al., 2010).

In a study by Pluddemann and Parry (2003), self-reported drug use was compared to urinalysis in a sample of 1050 arrestees in South Africa. Confidential interviews were conducted by a third party. The individuals were asked, “Have you used marijuana in the past 30 days? (30 day detection window for heavy chronic use) Have you used Mandrax (white pipe or methaqualone) in the past three days? (7 day window for detection). Have you used cocaine in the past three days? (2-3 day window for detection)” (Pluddemann et al., 2004). Results showed that 54% of those testing positive for cannabis, 32% of those

testing positive for Mandrax, and 35% of those testing positive for cocaine reported use. These numbers indicate a large divergence in self-report and urinalysis. However, these arrestees were under duress. Participants may have been in violation of parole and untrusting of the third party interviewers. Generally, self-report is more accurate for past use (rather than current use) and in cases where there are no negative consequences for substance use (Murphy et al., 2010).

Therefore, urinalysis should be administered in cases where the participant has a reason to give false information. Self-report measures are sufficient under all other conditions the ASI being the preferred self-report instrument.

## **Conclusion**

The DSM-IV is the primary instrument for defining and classifying mental illness. It also quantifies addiction clearly defining symptoms and criteria and distinguishing between *substance abuse* and *substance dependence*. The substance dependent individual is described as a “true addict” by the Big Book of AA . They reap the negative repercussions of substance abuse across the board. Self-report measures are the most commonly used measure of addiction in this field of research. The ASI is an empirically derived measure that includes DSM-IV criteria. It is psychometrically sound and measures severity of addiction. The ASI is the optimal choice for researchers. Urine analysis is often used, but is no more effective as self-report measure when no negative consequences are associated with drug use.

## Chapter 3

### **Spirituality/Religion Definitions and Measures**

In this chapter, I will discuss the definition of spirituality, spirituality versus religiosity, and the difficulties involved in distinguishing these constructs. Next, I will discuss several measures of religiosity; what are the most commonly used measures and what are limitations of each measure. Then, I will discuss several measures of spirituality; what constructs do they measure, what are the psychometric properties of each test, and what measures are most favorable for use in addiction research. Finally, the categorical classification for spirituality and/or religiosity will be evaluated.

#### **Definitions**

***Spirituality.*** Spirituality is a term with “definitional dilemmas” (Speck, 2005, p.4). There are a multitude of definitions and a multitude of instruments that have been developed in line with these definitions. According to Speck (2005), “to harmonize these definitions would be a herculean task” (p. 4). Many researchers believe that it is not possible to measure spirituality or that it should not be scientifically studied (Miller & Thoresen, 2003). These assumptions have contributed to an unscientific approach in defining and assessing spirituality. However, it is possible to define the construct for the purpose of research and measurement.

The Handbook on Religion and Health defines spirituality as a universal dimension of the human experience arising in three ways: within inner subjective awareness, relationships with others in the community, and/or a relationship with something that is

transcendent and beyond the self (Koenig, McCullough, & Larson, 2001). Although this definition is broad it allows for the development of an operational construct.

Spirituality can be measured relative to inner experiences, to experiences with others, and to experience beyond self and others.

Koenig, McCullough, and Larson (2001) further added to the concept of spirituality. Spirituality is seen as the personal quest for understanding, answers to ultimate questions about life, about the meaning in life, and about relationships to the sacred or transcendent, which may (or may not) lead to or arise from the development of religious rituals and the foundation of a community. According to Koenig et al. (2001), spirituality is both inward and external. It may or may not result in the formation of ritual and communities. This type of definition allow for some aspects of spirituality to be measured by external acts that may/or may not result in ritual or community activities, but it is till too vague to functional define spirituality.

Kass, Friedman, Leserman, Zuttermeister, and Benson (1991) classified spirituality in a manner that allows for better measurement than Koenig et al. (2001). Spirituality is one's search for a connection with a higher power and when successful, reduces anxiety and fosters a sense of belonging. Correlating spirituality with reduced levels of anxiety and reduced feelings of isolation allows researchers to measure the positive effect of spirituality using existing measures of anxiety and quality of life surveys.

Some authors choose vague definitions of spirituality, making measurement difficult or impossible. For example, Puchalski, Dorff, and Hendi (2004) defined spirituality as that which gives meaning and purpose in life. Miller (1998) and Piedmont (2004) both

defined the construct in an indistinct manner. They categorized spirituality as a motivational variable, a “nonspecific, affective force that drives, directs, and selects behaviors”. According to this definition, the person is driven by unknown forces to search for meaning and purpose in life. It is difficult to see how these definitions can be quantified.

Miller and Thoresen (2003) classified spirituality as a latent construct such as personality, culture, and cognition, that is not observed directly but inferred from observation of its component dimensions (Miller & Thoresen, 2003). Once researchers have discovered and verified these dimensions through psychometric testing, spirituality will cease to be mysterious and immeasurable. Instruments assessing these dimensions could then be standardized and applied in a systematic manner allowing for improvements in study design and meta-analysis procedures.

***Spirituality versus Religion.*** Traditionally, spirituality and religion have been viewed as interchangeable concepts. Only in recent years have scholars made a distinction between religion and spirituality (Miller & Thoresen, 2003). Speck (2005) theorized that spirituality has been divorced from religion in an attempt to solve the separation of church and state dilemma. According to Speck (2005), there is great difficulty making distinctions between spirituality and religion with regard to social actions or personal ethical conduct. However, in the literature, researchers do make distinctions in how one views God, self, and self in relation to God. These differences should be the starting point for separating spirituality from religiosity.

Typically, spirituality is defined in terms of the individual, the existential, or the relational. For instance, spirituality is commonly understood as an individual's subjective connection with a transpersonal dimension. Conversely, religion tends to be conceptualized in communal, organizational, or structural terms. Religion, for example, is widely viewed as a shared set of beliefs, rituals, and practices related to the transcendent (Hodge, Andereck, & Montoya, 2007).

Geppert, Bogenschutz, and William (2007) defined spirituality as “more personal and less formal search for meaning and relationship to the sacred” (p. 389). Religion is defined as an “organized system of beliefs and practices intended to mediate an individual's relationship to the transcendent and community” (Geppert et al., 2007, p. 389). Thus, spirituality is often considered to be individual and personal, whereas religion is public and organized.

Similarly, Miller and Thoresen (1999) related spirituality to the individual, but religiosity to the corporate body. Longshore, Anglin, and Conner (2008) stated that religiosity is typically defined as an “encompassed belief in God, various dimensions of involvement in organized religion, such as denominational affiliation (e.g., Protestant, Roman Catholic, or Jewish), frequency of attendance at services, acceptance of doctrinal beliefs and norms, and social interaction with fellow congregants” (p. 179). By contrast, the defined spirituality, as the inner quality that “facilitates connectedness with self, other people, and nature” (Longshore et al., 2008, p.179).

However, within the body of research, there are quantifiable differences between those classifying themselves as spiritual versus religious. For example, those identifying

themselves a spiritual saw God as more forgiving, whereas those identifying themselves as religious viewed God as more judgmental (McCrary & Miller, 1983), echoing a shift from “God is grace” versus “God is judge”. Those who identify themselves as religious would be more likely to carry a guilt consciousness, whereas those who identify themselves as spiritual would be more likely to have a sense of inner peace and freedom.

**Summary.** In general, religion “involves beliefs, practices, and rituals related to the sacred” (Koenig, 2009, p. 284). Koenig (2009) defined the sacred as “that which relates to the numinous (mystical, supernatural) or God, and in Eastern religious traditions, to Ultimate Truth or Reality” (p. 284). Religion has specific beliefs about death, life after death, and moral conduct during life. Religion is practiced in community, but can also be practiced in private.

In contrast, “spirituality is considered more personal, something people define for themselves that is largely free of the rules, regulations, and responsibilities associated with religion” (Koenig, 2009, p. 284). According to Koenig (2009), the inclusiveness of the term spirituality has made it difficult to measure. Spirituality is often measured in terms of religion or by having certain positive mental states or social interactions.

Standard measures used to assess these aspects of mental health and socialization in questionnaires about the meaning and purpose in life, connectedness, peacefulness, well-being, or joy (Koenig, 2009). Koenig (2009) critiqued this quantification of spirituality because it correlates equates to measures of good mental health. However, I would agree with Miller and Thoresen (2003) and Kass et al. (1991) that from a clinical perspective, it is acceptable and desirable to assess spirituality by its direct effect on



mental health. The purpose of research in the field is to determine if spirituality leads to greater mental health and abstinence from drugs and alcohol.

### **Measures of Spirituality and Religiosity**

In this section, I will give an overview of religious measures, evaluate their strengths and weaknesses, and discuss any issues regarding their application in research. Next, I will review a handful of spirituality measures, discuss purpose of their development, and their psychometric properties. Finally, opinions and limitations surrounding measures of spirituality and religiosity will be discussed.

***Religious Scales.*** Chitwood, Weiss and Leukfeld (2008) published a literature review of religious measures. They found four major dimensions of religion assessed in the research: 54% measured organizational religiosity, 24.8% measured religious affiliation, 22.9% measured subjective religiosity, and 21.0% measured religious beliefs. Chitwood et al. (2008) also reviewed measures of non-organizational religiosity and religious coping.

Over half (52.4%) of the articles examined organizational religiosity. Most (91.4%) of these operationalized religiosity in terms of the respondent worship patterns, although nine papers also contained one or more measures of family religiosity such as parental worship patterns, subjective religiosity of parents, and religious upbringing. Other measures of organizational religiosity include participation in religious sacraments and rituals. There is strong evidence that high levels of religious attendance are associated with high levels of physical and psychological well being (Ellison and Levin, 1998). Ellison et al. (1998) hypothesized that this positive statistical relationship is due to

mechanisms such as: 1) regulation of individual lifestyles and healthy behaviors, 2) provision of social resources, 3) promotion of positive self-perceptions, 4) provision of specific coping resources, 5) generation of other positive emotions, 6) promotion of healthy beliefs, and 7) additional hypothesized mechanisms, like the existence of a healing bio-energy. Religious involvement discourages high risk behaviors (such as drug and alcohol use) and encourages positive life choices. This type of encouragement is often given to families in the form of moral counsel, thereby lowering stress-related problems and increasing supportive relations among family members. Negative reinforcement is often used to encourage conformity to the social norms of the group. People will conform to avoid feelings of guilt/shame or being rebuked by religious leaders. Regular attendance to religious services also promotes friendships and various emotional and economical support. One way support is offered is by making health information and services accessible to its members.

The second most commonly used measure of religiosity appearing in 24.8% of the studies reviewed by Chitwood et al. (2008) is religious affiliation. Respondents are asked to self-identify as Protestant, Catholic, Jewish, Muslim, Buddhist, or no affiliation. It should be noted that religious attendance and affiliation do not automatically infer adherence to religious beliefs nor does affiliation infer attendance (Koenig et al., 2001).

The third most commonly measured (used 22.9%) is a self-report ranking of religiousness (Chitwood et al., 2008). Respondents are asked how religious they consider themselves to be or how important religion is in their lives. This dimension is sometimes referred to as religious salience.

The fourth most commonly used measure of religiosity assesses religious beliefs (used 21.0%). Religious belief is a cognitive dimension of religiosity (Chitwood et al., 2008). Respondent are asked questions such as, “do you believe in God” or “do you believe in life after death”. Some articles measure religious belief in regards to adherence to a specific religious teaching (Chitwood et al., 2008). Religious belief could easily be defined as spiritual belief and is included in nearly every measure of spirituality

Non-organizational religiosity, according to Chitwood et al. (2008), refers to religious activities and practices that do not require religious attendance and can be practiced in solitude. These activities are measured by questions about prayer, reading the scriptures, listening to religious programs on the radio, and watching religious television. This category could easily be called spiritual activities. Instruments like the Orientation Toward Religion and Spirituality Index measure aspects of religious activities as a part of the construct of spirituality.

Religious coping is measured by evaluating behaviors that help one cope with stressful life events (Chitwood et al., 2008). This includes praying to God, reading scriptures, and religious counsel. This dimension, as defined by Chitwood et al. (2008), overlaps with non-organizational religiosity and dimensions of spirituality. The difference seems to be that in religious coping, prayer or reading the scripture is undertaken during times of distress. In non-organizational religiosity, prayer and scripture reading are undertaken during normal circumstance.

Coping has been shown to aid in prevention disease and speed recovery from illness (Ellsion & Levin, 1998). Many religions teach coping skills in the form of prayer,

meditation, and rituals. These activities may allow the person to gain a sense of comfort, clarity, and control. Religions may also promote a positive sense of self by one's connection to the divine. Other positive emotions are fostered by prompting forgiveness, contentment, and love. These emotions can create an optimistic/hopeful outlook on life.

A few Likert type questionnaires evaluating religiosity are available. One example is the Religious Well Being Scale (RWB), a 10-item subscale of the Spiritual Well-Being Scale (SWB). It is a self-report Likert measure that assesses the components of religiosity regarding a belief in and having a personal relationship with God. The survey asks questions like "I believe that God is concerned about my problems" (Murphy & Fitchett, 2009, p.1003). However, it does not assess denomination or doctrinal beliefs.

In a study by Murphy and Fitchett (2009), the RWB was used as a predictor of response to treatment for depression. The study participants were 271 (136 completed the study) adults enrolled in an out-patient treatment for clinical depression (taking anti-depression medication in a clinical trial) and in-patients at a psychiatric hospital. All patients met the DSM-III for major depression or bi-polar disorder. They were excluded if they met criteria for mood disorders due to general medical condition, dementia, bereavement, psychotic disorders, organic mood disorder, borderline personality disorder, a history of substance abuse within the past 12 months, or a current manic episode. The patients were primarily middle aged Caucasian women. The RWB, Beck Depression Inventory, and the Beck Hopelessness Scale were administered at baseline and 8 weeks after admission.

The reliability of the RWB for the sample was alpha .94. Those with scores in the upper third of the RWB were more likely to respond to treatment. In addition, the authors suggested that those patients who suffered a loss in belief or had experienced religious struggles might score lower on the RWB and experience distress beyond their current symptoms of depression (Murphy & Fitchett, 2009).

The Religious Background and Behavior scale is another Likert-type measure of religiosity, developed as a supplementary questionnaire for use in Project MATCH (Connors, Tonigian, & Miller 1996). It is a brief 13 item self-report measure of religious practices and is intended to be used along with measures of spirituality (Connors et al., 1996). The RBB questionnaire assesses domains such as: the use of prayer and meditation, reading of scripture, attendance at worship services, and experiences of God (Connors et al., 1996). On the first item, respondents classify themselves as: atheist, agnostic, unsure, spiritual, and religious. On the next six items, respondents are asked to indicate on an 8-point Likert scale the frequency within the past year that they: thought about God, prayed, meditated, attended worship services, read or studied scriptures-holy writing, and had direct experiences of God.

The RBB has good internal consistency across samples (0.60) and test-retest reliability (0.94) (Connors et al., 1996). These results were obtained from a sample of 1,726 patients seeking treatment for alcohol use. The RBB is limited to two domains, God Consciousness and Formal Practices. Dimensions such as life purpose, theological perspective, and growth and striving are not measured.

**Summary.** The most commonly measured dimension of religiosity is organizational religiosity followed by religious affiliation, subjective religiosity, and religious belief. A few other measures of religiosity discussed are non-organizational religiosity, religious coping, the Religious Well Being Scale, and the Religious Background and Behavior. Many dimensions of these measures overlap with dimensions of spirituality. Therefore, it is difficult to separate the construct and measure them as separate entities. In fact, several dimensions of religiosity are commonly included in spirituality scales such as religious belief.

**Spiritual Scales.** Shorkey, Uebel, and Windsor (2008) conducted a review of spirituality measures. Those selected tap into seven dimension of spirituality that are viewed as significant in addiction recovery. These seven dimensions are: 1) awareness of spiritual aspects of reality; 2) perception/awareness of a higher power in everyday life; 3) belief that a higher power mediates outcomes in everyday life; 4) personal spiritual experience in interactions with a higher power; 5) perception of characteristics and quality of interactions with higher power; 6) awareness that a relationship with a higher power produces positive emotions cognitions, and behaviors related to self, others, and the world; 7) awareness that a relationship with a higher power produces sense of well being, meaning, purpose, and satisfaction in life/harmony with universe.

Only empirically developed measures that clearly measures aspects of spirituality that were minimally subject to preliminary testing were reviewed by Shorkey et al. (2008). Ten scales were selected: 1)The Belief in Personal Control Scale; 2)The Daily Spiritual Experience Scale; 3) The Spiritual Health Index; 4)The Spiritual Well-Being Scale; 5)

Orientation Toward Religion and Spirituality Index; 6) Spirituality Self-Assessment Scale; 7) Spirituality Scale; 8) Index of Core Spiritual Experience; 9) Spiritual Assessment Inventory; 10) Spiritual Belief Scale. Data collected from these scales were insufficient to conduct a meta-analysis. Nonetheless, Shorkey et al. (2008) stated that these measures define a sense of internalized spirituality that “contributes to positive outcomes, among which are the kinds of self understandings and self-actualizations underpinning recovery from drug and alcohol dependence” (p.286). Therefore, I will conduct a brief overview of these ten measures as well as two additional measures that assess spiritual maturity and growth, the Spiritual Transcendence Scale and the Christian Inventory of Spirituality.

The Belief in Personal Control Scale was designed to measure three dimensions of personal control: Internal-External Locus of Control, belief that aspects of life are controlled by fate/environmental factors/one’s actions, and belief that aspects of life are controlled through the assistance of God/spiritual forces that mediate outcomes (Shorkey et al., 2008). The BPCS revised consists of 45 items scored on a Likert-type scale. Factor analysis was conducted resulting in the following three factor model: external control, exaggerated control, and God-mediated control (Burrenberg, J. L., 1987). The study sample included 445 university students in a general psychology course; the re-test sample consisted of 81 students from the same university. Reliability coefficients for the factors ranged from 0.80 to 0.97. Factor analysis revealed that external control accounted for 11.1% of the common variance, exaggerated control accounted for 8.6% of the common variance, and God-mediated control accounted for 6.2% of the common

variance (Burrenberg, J. L., 1987). According to Shorkey et al (2008), this instrument could be useful in measuring the degree to which a person attributes their successful recovery for substance dependence on external events, their own actions/efforts, or through a spiritual agent.

The Daily Spiritual Experience Scale (DSES) measures a person's perception of God in everyday ordinary experiences and his/her perception of interactions with God in daily life (Underwood & Teresi, 2002). The survey is a 16-item Likert scale questionnaire, and includes as sample items 1) I find comfort in my religion or spirituality; 2) I feel God's love for me directly; 3) I ask God for help in the midst of my daily activities; 4) During worship, or at other times when connecting with God, I feel intense joy which lifts me out of my daily concerns; 5) I feel deep inner peace or harmony; 6) I am spiritually touched by the beauty of creation; 7) I am thankful for my blessings; 8) I feel a sense of selfless caring for others (Underwood & Terese, 2002, p. 25).

In a test of the scales reliability, 355 patients from medical centers were given the 16 item DSES. The sample was predominantly Caucasians and female. The scale was tested for reliability and construct validity. Reliability coefficients ranged from 0.64 to 0.78 and internal consistency ranged from .94 to .95 (Underwood & Terese, 2002). African-American women consistently scored higher than did their Caucasian counterparts. Women in general reported higher spirituality on the DSES than men. Those who reported to have no religion scored lower on the scale than those who were Catholic or Protestant (Underwood & Terese, 2002).



The Spirituality and Health Index (SHI) is a self-report measure of spiritual health originally developed by Veach and Chappel (1992). Korinek and Arredondo (2004) evaluated the 32-item expanded version of the scale. Factor analysis was conducted using a sample of 243 male felony offenders in treatment centers and out-patients in other treatment facility. The sample primarily consisted of middle aged Caucasian males. The SHI was reduced to 30 items and the overall reliability was 0.86 (Cronbach's alpha). The original four factor model was reduced to a three factor model: Spiritual Experience (0.85 Cronbach's Alpha), Spiritual Locus of Control (0.67), and Spiritual Well-Being (0.72) (Korinek and Arredondo, 2004).

The following questions are an example of the 12 items that loaded on the Spiritual Experience factor, "I experience the presence of God or a Higher Power in my life" and "I have had a spiritual experience or a sense of spiritual awakening" (Kornick and Arredono, 2004, p. 61). The second factor, Spiritual Locus of Control, includes 7 items and the following is an example of the questions loading on this factor, "God or a Higher power is so powerful that nothing I do makes any difference" and "I believe that God, or my Higher power, will not do anything for me which I can do for myself" (Kornick & Arredono, 2004, p. 61). There are 9 items loading on the third factor, Spiritual Well-Being; the following are representative of these items, "I have an internal experience of being accepted for who I am" and "I experience a sense of harmony with the world and the universe as it exist" (Kornick & Arredono, 2004, p. 61).

The Spiritual Well Being Scale assesses the following dimensions of spiritually related well-being: 1) religious well-being (RWB); 2) existential well-being (EWB); and 3)

overall spiritual well-being (SWB) (Paloutzian & Ellison, 1982). The scale is a 20-item Likert scale developed to measure the nature of spiritual well-being and of its relation to a personal relationship with God (Utsey, Lee, Bolden, & Lanier, 2005). Samples of the questions asked in the scale are as follows: “My relation with God contributes to my sense of well-being” and “I believe there is some real purpose for my life” (Utsey et al., 2005, p.251). Paloutzian and Ellison (1982) reported a test/re-test reliability coefficient of 0.96 for RWB, 0.86 for EWB, and 0.93 for SWB. Internal consistency coefficient ranged from 0.76 to 0.93 (Cronbach’s alpha), and the scale demonstrated convergent validity correlating negatively with measures of loneliness and positively with measure of life purpose, intrinsic religious orientation, and self-esteem (Ellison et al., 1983). Utsey et al. (2005) conducted factor analyses for a five, three, two, and one factor model. The respondents were 291 African-Americans from community-sponsored events, adult learning centers, and residential job-training programs (Utsey et al., 2005). The analyses did not produce interpretable results, and no underlying factor structure was determined. These findings are inconsistent with prior research (Utsey et al., 2005).

The Orientation Toward Religion and Spirituality Index is a modified version of the Orientation to Life and God Scale (Goldfard, Galante, McDowell, Lifshutz, & Dermatis, 1996). Goldfard et al. (1996) modified 12 items from the scale, replacing the word religion with the word spirituality. The following questions are a sample of the 12 items on the scale: 1) “What spirituality offers me most is comfort in times of trouble and sorrow”; 2) “Spirituality helps to keep my life balanced and steady in exactly the same way as my citizenship, friendships, and other memberships do”; 3) “Spirituality is for

peace and happiness”; 4) “My whole approach to life is based on my spirituality”; 5) “The spiritual community is most important as a place to formulate good social relationships”. A five-point Likert scale is used by respondents to rate the items. Study participants were divided into two groups. In the first group, 119 first year medical students volunteered to participate. In the second group, 101 patients in an acute care at Bellevue Hospital with dual diagnosis were recruited (substance abuse and Axis I or Axis II DSM-III-R diagnosis). The survey was verbally administered to psychiatric patients by a psychiatrist after the patient was no longer psychotic. Medical students were primarily young male Caucasians. The psychiatric patients were primarily middle-aged African-American males. The medical students were significantly less spiritual than the patients. Seventy-four percent of the students ranked housing as being the most important factor in recovery, whereas 59% of the patients ranked God to be the most important factor in recovery. The OTRSI has an internal consistency Cronbach’s alpha of 0.86. Construct validity was established using the Factor Similarity Index comparing the medical student sample with the patient sample (a correlation significant of 0.95), suggesting that patients were more spiritual and perceived spirituality as important in recovery.

The Spirituality Self-Assessment Scale (SSAS) developed by Whitfield (1984) assesses levels of spirituality in those recovering from substance and alcohol dependence (Shorkey et al, 2008). It is a 34 item Likert-type scale (with the exception of one item) that is intended to be unbiased to agnostics and atheists. The scale is intended to measure spiritual maturity. Corrington (1989) conducted a correlational study between length of time spent in AA, spirituality, life contentment, and stressors encountered over the year.

Spirituality was measured by the SSAS. The sample consisted of 30 AA members. Surveys were given twice over a three month period. High levels of spirituality were correlated with life contentment, measured by Hudson Generalized Contentment Scale (Corrington, 1989). Those with more stressful life encounters, measure by the Life Events Scale, scored higher on life contentment if they were in AA longer compared to those in AA less than 2 years (Corrington, 1989). There was also a relationship between spirituality, life contentment, and time spent in AA. The longer time individuals were in AA the higher they tended to score on spirituality and life contentment scale (Corrington, 1989). The study did not conduct psychometric analysis of the SSAS.

The Spirituality Scale is a 20-item scale measuring spirituality from Agricultural perspective (Jagars & Smith, 1996). The responses are coded based on a 6-point Likert-type scale (Jagars & Smith, 1996). Jagars and Smith (1996) evaluated the reliability and predictive validity of the Spiritual Scale. The study participants were undergraduate students in an introduction to psychology course (75 European-Americans and 68 African-Americans). Samples of questions from the Spirituality Scale are “To me everything has some amount of spiritual quality” and “Though I may go to the doctor when I am ill, I also pray” (Jagars & Smith, 1996). In addition to the Spiritual Scale, the students were given the Religious Life Inventory, the Spiritual Well-Being Scale, God as Causal Agent Scale, and Locus of Control Scale. These instruments are collectively called religious indices which consist of the following dimensions: internal orientation, external orientation, quest orientation, personal agency, God agency, religious well-being, and existential well-being (Jagars & Smith, 1996).

The reliability alpha coefficient for the Spiritual Scale was 0.77 for African-Americans and 0.83 for European-Americans. Women scored significantly higher, particularly African-American women (Jagers & Smith, 1996). Internal religious motivation was predictive of Spirituality Scores for African-Americans. God agency and religious well-being were predictive of Spirituality Scores for European-Americans (Jagers & Smith, 1996).

The Index of Spiritual Experience (INSPIRIT) is intended to measure the individual's spiritual experience independent of religion (Krass, Friedman, Leserman, & Zuttermeister, 1991). The INSPIRIT scale is believed to measure positive attitudes that may serve as buffers from stress-related components of illness (Heinz, Epstein, & Preston, 2007). The following is a sample of the questions asked in the INSPIRIT scale: 1) What is your present religious or spiritual orientation? 2) About how often do you spend time on religious or spiritual practices? 3) How often have you felt as though you were very close to a powerful spiritual force that seemed to lift you outside yourself? 4) Have you ever had an experience that has convinced you that the ground being (God or transcendent) exists? (Heinz et al., 2001, p. 43). The original validation study revealed a positive correlation between scores on the INSPIRIT and health improvement, life satisfaction, and perceived meaningfulness of life (Kass et al. 1991). Hinebaugh-Igoe (1999) found the measure to have acceptable reliability and construct validity (a measure of internal religiousness).

The Spiritual Assessment Inventory (SAI) was developed by Hall and Edwards in order to create a relationally-based psychometrically-sound measure of spiritual

development (Hall & Edward, 2002). The SAI consists of 79 items and two dimensions, Quality of Relationship with God and Awareness of God. There are five subscales: Awareness, Realist Acceptance, Disappointment, Grandiosity, and Instability. Two studies of exploratory and confirmatory factor analysis were conducted. In the first study, 438 respondents from a private Protestant university were administered the SAI, as well as, five other measures of convergent and divergent validity.

In the second study, 260 participants were administered the SAI from introduction to psychology class at a private university, counseling master's students at a Christian college, and adult Sunday school classes at an evangelical church. The participants were predominantly Caucasians between 18 and 22. The five-factor model was a good fit (comparative fit index=0.99). The reliability of the scales was measured with Cronbach's alpha for the following five dimensions: Awareness, 0.95; Disappointment, 0.90; Realistic Acceptance, 0.83; Grandiosity, 0.73; and Instability, 0.84 (Hall & Edward, 2002). The scale showed good construct validity with the Spiritual Well-Being Scale, Intrinsic/Extrinsic-Revised, the Bell Object Relations Inventory, the Defense Styles Questionnaire, and the Narcissistic Personality Inventory (Hall & Edward, 2002). In addition, the study revealed a relationship between the satisfaction with one's relationship with God and life on the SAI and spiritual well-being on the SWBS (Hall & Edward, 2002).

The Spiritual Belief Scale (SBC) was developed to measure spiritual thinking in treatment providers (Shorkey & Windsor, 2010). The purpose of this report is to evaluate

measure of spirituality for patients in treatment program. Therefore, the SBC will be included in this report.

The Spiritual Transcendence Scale (STS) was developed to answer the question, regarding the ability for an individual to view life from a larger, more objective perspective, a perspective that allows one to see the fundamental unity and diverse striving of nature (Piedmont, 2004). Piedmont (2004) addressed this issue by conceptualizing spirituality as a motivational variable (a force that drives, directs, and selects behaviors). The STS is a 24-item self-report scale composed of three facets. The first facet is prayer fulfillment- the feeling of joy and contentment that results from personal encounters with a transcendent reality ( $r = 0.87$ ). The second facet is universality-a belief in the unitive nature of life ( $r = 0.83$ ). The third facet is connectedness-a belief that one is a part of a larger human reality that cuts across generations and across groups ( $r = 0.64$ ).

STS significantly predicted ratings for psychological variables on the NEO Personality Inventory-Revised, Coping Resources Inventory, Brief Symptom Inventory, Global Well-Being Scale, Bradburn Affect Balance Scale, and Counselor Interviews for factors such as stress experienced, social support, interpersonal style, pro-social behavior, and psychological growth (Piedmont, 2004). In studies by Piedmont (2001, 1999) STS scores were predictive of related spiritual construct such as well-being, self-actualization, attitudes toward sexuality, and stress experienced. The measure was also found to be valid and reliable across religions (Piedmont & Leach, 2002).

In a 2004 study by Piedmont (sample size=56, 47 men and 9 women alcohol and substance users with a history of relapse), the STS was found to be a significant predictor of psychological outcomes of treatment programs predicting coping ability, symptoms experienced, and well-being rating. The treatment program was an 8-week multi-disciplinary outpatient day treatment focused on vocational skills, individual and group counseling, AA/Chemical Dependence Anonymous groups, and therapeutic activities for personal, physical, and spiritual growth. Interestingly, clients who scored higher on the STS scale pre-treatment had better overall treatment outcome than those who scored lower on the scale.

STS scores changed significantly over the course of treatment possibly measuring therapeutic effect of the treatment program. Piedmont hypothesized that spirituality could be used by mental health professionals to facilitate change during treatment, using concepts such as forgiveness, connectedness, and universality. The STS may be able to identify qualities responsible for producing change resulting in what is considered spiritual transformation and could even be representative of a sixth dimension of personality (Piedmont, 2004). Limitations of this study were the small sample size, predominantly African-American men, and the fact that participants were enrolled in a spiritually based treatment program.

The Christian Inventory of Spirituality (CIS) assesses internalized spiritual change based on external changes in relation to self, other, and the world (Shorkey & Windsor, 2010). The scale was developed using focus groups to evaluate changes in thinking that occur during spiritual transformation from a Christian perspective. The CIS is a 87-item



self-report survey evaluating changes in feeling, thinking, and behaviors toward self, others, and God (Shorkey & Windsor, 2010). To test the internal consistency of the scale, a sample of 954 patients was collected across seven in-patient faith-based drug treatment programs with lengths of stay varying from 30 days to 18 months (70% male). The programs offered services including Bible study, counseling, work training, assessment, drug detoxification, church services, GED preparation, community mentoring, legal advising, relapse prevention, family support, discipleship, 24 hour supervision, referrals, living skills, and parenting education (Shorkey & Windsor, 2010). Focus groups were used to help describe what a spiritual person thinks, acts, and feels like when he or she has reached a stable point in recovery (Shorkey & Windsor, 2010). Factor analysis revealed five dimensions: attitudes/behaviors toward others (internal consistency  $\alpha = .91$ ), self appraisal ( $\alpha = 0.89$ ), reliance on God ( $\alpha = 0.9$ ), spiritual practice ( $\alpha = 0.90$ ), and reliance on self ( $\alpha = 0.78$ ) (Shorkey & Windsor, 2010). The CIS's stability over time was tested by administering the scale twice in a one-week period. Thirty-two respondents from three faith-based programs were included in the study. The correlation between pre and posttest was 0.73 ( $p = 0.000$ ) (Shorkey & Windsor, 2010). The construct validity of the study was assessed by correlating the CIS with the Social Connectedness scale (0.404,  $p < .01$ ), Rosenberg Scale of Self-Esteem (0.629,  $P < .01$ ), Costello Comfrey Depression (-.670,  $p < .01$ ) and Anxiety Scales (-.396,  $p < .01$ ), and Multidimensional Measurement of Religiousness and Spirituality [Daily Spiritual Experiences (0.687,  $p < .01$ ), Forgiveness (0.615,  $p < .01$ ), Private Religious

Practice (0.624,  $p < .1$ ), and Religious/Spiritual coping (0.817,  $p < .01$ )]. A sample size of 96 was collected across 7 faith-based programs (Shorkey & Windsor, 2010).

**Summary.** There are a number of reliable and valid measures of spirituality available. Researchers have identified a variety of factors and dimensions for each measure. Although the names and labels of these factors differ, many of the dimensions overlap. In a meta-analysis by Shorkey et al. (2008), seven dimensions of spirituality were identified for 10 measures: 1) awareness of spiritual aspects of reality; 2) perception/awareness of higher power in everyday life; 3) belief that a higher power mediates outcomes in everyday life; 4) belief that personal spiritual experiences determines interaction with a higher power; 5) perception of characteristics and quality interactions with higher power; 6) relationship with a higher power produces positive emotions cognitions, and behaviors related to self, others, and the world; 7) relationship with a higher power produces a sense of well being, meaning, purpose, and satisfaction in life/harmony with universe. These dimensions or similar dimensions could be present in a multitude of spirituality measures. Establishing a stable factor model among these tests could improve not only the ability to measure spirituality as a concrete construct, but it could improve researchers' ability to replicate previous studies.

### **Categories Relating Religiosity to Spirituality**

Hodge, Andereck, and Montoya (2007) used the Index of Core Spiritual Experiences (INSPIRIT) scale developed by Kass and associates (1991) and a supplementary questionnaire to develop life style profiles of their respondents. The INSPIRIT scale is a seven item scales designed to measure "spiritual reality." It is considered to be reliable

(reliability below 0.70) and valid (Cronbach's alpha coefficient of 0.90) (Hill & Hood, 1999). A supplemental questionnaire measured how the respondents perceive the communities views of alcohol and drug abuse, their feelings of safety in the community, and a sense of community as a whole. The measures were used to develop a life-style profile for each participant. There were four profiles: spiritual and religious, neither spiritual nor religious, spiritual but not religious, and religious but not spiritual.

Shorkey et al. (2008) identified three profiles for religiosity and spirituality: 1) a person maybe both religious and spiritual; 2) a person may view spirituality as the goal of religion; or 3) a person may consider himself or herself to be spiritual without being religious. These categories are similar to the life-style profile developed by Hodge et al. (2007).

The profiles developed by Shorkey et al (2008) and Hodge et al. (2007) are very similar. In both sets of profiles, spirituality is an individual experience, whereas religion is seen as a community or group experience. However, in profiles identified by Shorkey et al. (2008), spirituality is the goal of religious participation. In the life-style profile developed by Hodge et al. (2007), spirituality is not necessary for religious participation. According to Hodge et al. (2007), one can be spiritual without community participation and one can be religious without experiencing feelings of spirituality.

The spontaneous development of such similar categories for spirituality and religiosity suggests that this is a fruitful area for further research. Instead of dichotomizing religion and spirituality, they could be seen as co-occurring aspects of a larger construct; existing independently and side-by-side. Categorizing spirituality and religion in this way will

allow for a more comprehensive definition of the constructs and a broader spectrum of measurement.

## **Conclusion**

In summary, Chitwood et al. (2008) defined spirituality as a concept that includes religion, but can be defined separately from religion (Chitwood et al., 2008). Spirituality is often viewed as more internal and private, whereas religion is more external and communal. According to Chitwood et al. (2008), some authors specify dimensions of spirituality that are actually dimensions of religiosity.

In research and measurement, the trend among researchers is to develop new measures of spirituality/religiosity without providing evidence for their implementation. Multiple reliable and valid measures of spirituality and religiously are widely available. As Gorsuch (1984) stated that no new scales are needed in the area of psychological measurement of religion and that we are ready to go beyond the basics and into the process of evaluating their success. Gorsuch (1984) further states, new scales should only be developed if they add unique information to existing scales. Spirituality scales are numerous and well-established. It is time for researchers to conduct meta-analyses of the measures, like the study conducted by Shorkey et al. (2008).

Measures of spirituality and religion also primarily rely on self-report surveys. Gorsuch (1984) suggested that other methods such as clinical interviews and religious affiliation data be collected and integrated with questionnaire data. The more sources of information available to researchers regarding the subject of spiritual and religious

background and beliefs, the greater their ability to explain the variance in treatment outcomes.

Nevertheless, the majority of researchers have yet to heed Gorsuch (1984) and they continue to use new measures and collected information from a limited number of resources. It is conceivable that future research would include several measure of religiosity (like organizational religiosity and religious affiliation), spirituality (like the SWB and the CSI), and a brief questionnaires allowing individuals to classify themselves according to the life-style profiles developed by Hodge et al. (2007).

## **Chapter 4**

### **Relating Spirituality to Addiction and Treatments of Addiction**

In this chapter, observational research studies of spirituality/religiosity will be reviewed. Then, I will give a brief overview of the definition of meditation and prayer. Next, descriptive studies and empirical studies of meditation and prayer as spiritual/religious interventions will be discussed. Finally, study results will be summarized and conflicting data discussed.

#### **Spirituality and Religiosity Research**

Researchers have observed a relationship between spirituality and religiosity and abstinence rates. Jarusiewicz (2000) reported that those who successfully recovered from addiction had higher levels of spirituality. Kaskutas, Turk, Bond, and Weisner (2003) reported that those who experienced a spiritual awakening while attending AA meetings were four times more likely to be clean and sober three years post-treatment. The following four studies give an overview of research in this area.

***Study One.*** In a study by Conner, Anglin, Annon, and Longshore (2008) the relationship between spirituality and religiosity and substance abuse was evaluated. Participants, 375 patients in treatment for long-term crack/cocaine and opiate dependence, received two different replacement medications. Self-report measures and urine analysis were used to determine abstinence rates. The Religious Well Being (RWB) Scale and the Spiritual Well Being (SWB) Scale were used to quantify religiosity

and spirituality. Measures were given at baseline, 12 months, and 18 months. The program did not offer religious or spiritual interventions, but participants were encouraged to attend self-help groups like AA (Conner et al., 2008). Scores on the SWB were related to reduce drug use during treatment and at the 18 month follow-up. Increases in SWB scores overtime was related to reductions in drug use. No significant correlations were found for the RWB. This study was limited to those seeking replacement therapy for heroin or crack/cocaine use and is not generalizable to the population of all substance users.

The lack of correlation between scores on the RWB and abstinence rates raises questions about the usefulness of the measure. The RWB (a subset of the SWB) measures one's personal relationship with God. The SWB measures dimensions of existential well-being and overall spiritual well-being. In future studies, scores on the SWB could be compared to the composite on the SWB and RWB to determine if the addition of the RWB would explain more of the variance in abstinence rates.

**Study Two.** In a study by Heinz, Epstein, and Preston (2007), spirituality and religious participation was related to substance abuse treatment outcomes, with 169 (66% male and 72% African-American) abusers if opiate or cocaine admitted to a 12-week drug treatment program. The INSPIRIT self-report measure was used to assess spirituality and religious participation. The ASI was administered, but scores were not used in the analysis. Urine drug tests were collected twice per-week for 12-weeks to evaluate treatment outcomes. Participants who were physically dependent were offered

detoxification with methadone for 21 days. Dependence was determined by drug use history and medical evaluations.

The frequency of religious/spiritual activities was significantly correlated with treatment outcomes. Subjects with frequent participation in religious/spiritual activities had significantly better treatment outcomes (determined by retention rates and bi-weekly drug screens). INSPRIT scores showed a weak correlation with treatment outcomes. African-American respondents had higher INSPRIT scores than Caucasians. Women and African-Americans were more likely to report religious/spiritual beliefs or experiences. Based upon these results, there seemed a relationship between religious attendance and positive treatment outcomes. However, these results may be due to a social phenomenon not a spiritual one. The sample population is limited to predominantly African-American males. The relationship between the ASI, INSPRIT scores, and treatment outcomes was not evaluated. There maybe a relationship between these variables. For instance, scores on the ASI may account for variance in treatment outcome or be correlated with INSPRIT scores.

***Study Three.*** Petry, Marilyn, Lewis, Elin, and Ostvik-White (2008) measured the frequency of non-drug related activities (including church attendance) in a study of 184 cocaine abusers in a Contingency management program. Participants met the DSM-IV criteria for current cocaine abuse or dependence. Patients' drug use was measured using urinalysis and breath screens. Out-patient treatments offered included: release prevention, coping and life skills training, AIDS education, and 12-step treatment. The 34 participants who remained engaged in regular religious activities during treatment,



remained in treatment longer and were abstinent for longer durations (even when the overall number of activities was controlled for). Activities classified as religious were as follows: going to church, mosque, temple, bible study, baptisms, church play, church dinners, volunteering at church, and reading/writing opinions on sections of the bible or Koran. Going to church was the most popular of these activities (77.5%) (Petry et al., 2008). Additionally, those who began the program actively using drugs were more likely to decrease use if they engaged in religious activities; while those who began treatment not actively using had remained abstinent regardless of religious activity (Petry et al., 2008). One limitation of the study is that participation in religious activities was voluntary (Petry et al., 2008). Nevertheless, the social structure and spiritual teaching provided by religious activities may foster spiritual growth and an abstinent life-style.

***Study four.*** In a study by Staton-Tidwell, Oser, Duvall, Havens, Webster, Leukefel, and Booth (2008), spirituality/religiosity and abstinence rates were studied. Participants consisted of 225 stimulant users (57.3% were male and 81.8% were Caucasian). Religiosity was measured using a Likert-scale self-report questionnaire asking the following questions: 1) How religious do you feel you are; 2) How important is religion in your life; 3) How often do you go to church (Staton-Tidwell, 2008). Spirituality was assessed by asking one Likert-type question measuring an individual's perceived connectedness with a higher power. Of the participants, 85% reported being somewhat religious, 86% reported religion as being somewhat important, 31% reported attending church at least monthly, and 93% reported being somewhat connected to a higher power (Staton-Tidwell, 2008). A self-report questionnaire was used to measure lifetime use,

past six month drug use, and past 30 day drug use. Women were more likely to report more days of multiple substance use (Staton-Tidwell, 2008). Connection to a higher power was negatively correlated with frequency of amphetamine use for men (correlation was marginal for women) (Staton-Tidwell, 2008). However, religious feelings were positively correlated with substance use for women (Staton-Tidwell, 2008). Church attendance was marginally correlated with reduced substance use (Staton-Tidwell, 2008). Overall, study finding showed a decrease in substance use rates for men who perceived a connection to a higher power and increases in substance use for women who felt religious.

The positive correlation between religious feelings and substance use may be attributed to the self-report questionnaires designed by the researchers. The survey could tap into dimensions of spirituality or religiosity that produce negative effects on substance use. For example, negative emotions like guilt or fear could be associated with feelings of religiosity, and positive emotions such as hope and life purpose could be associated with a perceived connection to a higher power. It is advisable to utilize existing psychometrically sound measures that have well-defined and validated dimensions of spirituality and religiosity

**Summary.** In summary, the SWB was correlated with reductions in abuse rates, but the INSPIRT scale was not significantly correlated with reduction in substance use. The RWB was not correlated with reductions in abuse rates, but frequency of religious attendance was correlated with reductions in use. Religious feelings were correlated with increased substance use, but connection to a higher power was correlated with reductions

in substance use. Overall, there is evidence of a relationship between some dimensions of spirituality and religiosity and reduced substance abuse. The inconsistency in study outcomes could be attributed to the following factors: insufficient measurement of addiction severity, inadequate and inconsistent measurement of the dimensions of spirituality and religiosity, and inadequate study design (not analyzing relationships among available data).

### **Meditation and Prayer Research**

In this section I will examine the effects of meditation and prayer on substance use. First, I will briefly define meditation, mindfulness-based meditation, transcendental meditation, and prayer. Then, I will summarize a few research studies evaluating the effects of meditation and prayer on substance abuse rates. Finally, I will discuss the implications of these studies for the future of drug and alcohol treatment and research

#### **Definitions**

**Meditation.** *Meditation* is defined as a heightened state of awareness and inner peace (Pruett, Nishimura, & Priest, 2007). From a medical perspective, it is a relaxation technique that reduces heart rate, breathing, and blood pressure (Pruett et al., 2007). The two types of meditation addressed in this report are Mindfulness-based meditation and Transcendental meditation.

***Mindfulness-based Meditation.*** Mindfulness-based meditation is rooted in Buddhism (Appel & Kim-Appel, 2009). Mindfulness is a state of mind that is marked by the awareness of one's thoughts, actions, or motives (Appel et al., 2009). The practice of mindfulness is the purposeful effort to pay attention, non-judgmentally, to the present-

moment for a sustained period of time (Appel et al., 2009; Kate-Zinn et al, 2002). During this type of focused attention, one gains insight into one's own thoughts, feelings, and interactions (Appel et al., 2009). The ultimate goal of mindfulness is to see one's self clearly and to learn to respond skillfully to life's challenges and stressors.

***Transcendental Meditation.*** Transcendental Meditation is rooted in Indian philosophy and is taught by certified teachers (Wikipedia, 2010). This type of meditation is practiced by repeating a mantra for approximately 20 minutes to induce a deep state of relaxation. Transcendental Meditation is the most empirically studied form of meditation and has been shown to be helpful in reducing substance abuse rates (Geppert et al., 2007).

**Prayer.** Prayer is a form of deliberate religious practice that connects one to a god or spirit. It can be conducted individually or in community, in public or in private, and it may involve the use of words or a song (Wikipedia, 2010). A few common types of prayer are petitionary prayer, prayers of supplication, thanksgiving, and worship/praise (Wikipedia, 2010). Simply put, prayer is communicating with the transcendent.

Researchers have linked the use of prayer to reductions in substance abuse (Lambert, 2010).

### **Mindfulness-based research**

Mindfulness is increasingly becoming a part of Western psychology and psychotherapy used to alleviate a variety of conditions (Appel et al., 2009). The practice of meditation techniques such as mindfulness is not limited to Buddhism; traditions such as Christianity, Judaism, and Islam have a long history of meditative practices in the form of prayer, adoration of the Eucharist, and contemplation and meditation (Appel et al., 2009).

In recent years, research on mindfulness has grown from 83 articles/dissertations from 1980-2000 to 557 articles/dissertations from 2000-2009 (Appel et al., 2009). In this section, I will review four articles on meditation (mindfulness and transcendental) and substance abuse.

***Study one.*** Hawkins (2003) conducted a literature review of 39 studies on Transcendental Meditation (TM) and treatment/prevention of criminal behavior and substance abuse. Study samples were collected from participants in treatment programs, incarcerated offenders, and at-risk youth. No studies were conducted on the general populations (Hawkins, 2003). TM was correlated with reductions in substance use, anxiety, depression, neuroticism, and other forms of psychological distress (Hawkins, 2003). Improvements in physiological well-being, enhanced autonomic functioning, and better neuro-endocrine balance were also observed (Hawkins, 2003). These positive psychological health changes are significant across time, indicated by lower recidivism rates (Hawkins, 2003). As a whole, TM shows promise as a low cost and effective treatment for addition to drug and alcohol. Hawkins (2003) stated that the results of TM should not be generalized to other meditation and relaxation techniques. TM is shown to have an effect size two to eight times greater than other meditation techniques (Hawkins, 2003).

***Study two.*** Witkiewitz and Bowen (2010) studied the efficacy of mindfulness in relapse prevention. The objective of the study was to examine the relationship between depression, cravings, and substance use after Mindfulness-Based Relapse Prevention Therapy (MBRP). Participants included 168 volunteers from a drug and alcohol

treatment center, randomly assigned either to eight weekly sessions of MBRP (treatment group) or treatment-as-usual (control group). MBRP treatment consisted of eight two-hour sessions conducted by master's degree psychologists or social workers. Sessions consisted of guided meditation and discussion. Participants were also given daily meditation exercises that were practiced individually. The treatment-as-usual group received outpatient aftercare, 12-step groups, process-orientation groups, and psycho-education. All participants were given the Beck Depression Inventory to assess depressive symptoms, the Penn Alcohol Craving Scale to assess cravings, and the Timeline Follow-Back questionnaire to assess substance use.

Results indicated that in the treatment-as-usual group, cravings were mediated by depressive symptoms (Witkiewitz & Bowen, 2010). This was not true for the MBRP participants. In the MBRP group, increases in depressive symptoms were not related to increases in cravings (Witkiewitz & Bowen, 2010). Overall, the MBRP group had lower rates of substance use. All participants who continued meditation four months after treatment were abstinent at follow-up (Witkiewitz & Bowen, 2010). These results indicate that mindful-based interventions may reduce relapse rates by teaching substance users healthy coping behaviors and reducing cravings.

**Study three.** In a study by Bowen, Witkiewitz, Dillworth, Chawla, Simpson, Ostafin, Larimer, Blume, Parks, and Marlatt, (2006), the effectiveness of Vipassana Mindfulness-Based Meditation (VM) on substance abuse rates for incarcerated individuals was investigated. The number of participants at baseline was 305 (predominantly Caucasian males) and 78 completed follow-up assessments. Participation

in the VM program was voluntary, and all treatments were administered in gender segregated group sessions. All participants were assessed one week prior to treatment and one week after completing treatment. Follow-up assessments were administered at three months and six months after release. Instruments used included: the Daily Drinking Questionnaire, the Daily Drug-Taking Questionnaire, the Drinker Inventory of Consequences, the White Bear Suppression Inventory, the Brief Symptom Inventory, and the Life Orientation Test. VM participants were housed separately from the general inmate population during the 10-day treatment session. Meditation was conducted by certified instructors for 11 hours per day.

Results for the VM group were a significant reduction in drug use compared to the treatment-as-usual group after release (Bowen, Witkiewitz, & Dillworth et al., 2006). The VM group also reported decreases in alcohol-related problems, psychiatric symptoms, and increases in positive psychosocial outcomes. These results demonstrate the possible usefulness of meditation for those who have previously experienced little to no success in traditional treatment programs. Overall, this type of meditation could help substance abusers develop new coping strategies and learn to change their compulsive/impulsive behaviors (Bowen, Witkiewitz, & Dillworth et al., 2006).

***Study four.*** A pilot study by Alterman, Koppenhaver, Mulholland, Ladden, and Baime (2004) evaluated the treatment effects of mindful-based meditation on substance use. Eighteen patients were randomly assigned to eight weeks of mindfulness-based meditation and 13 patients were given standard treatment. Mindful meditation was implemented in two-hour instructor led sessions once per week for eight weeks.

Independent meditations session were administered daily by audiocassette in 30 and 45 minute group sessions. One seven-hour course was held in silence on the sixth week of treatment. The Addiction Severity Index (ASI), urine drug screens, Spirituality Assessment Scale, Life Orientation Test, Health Survey, and Positive Affect Negative Affect Schedule were administered at baseline, eight weeks, and five months.

Significant decreases in alcohol use, drug problems, and social problems were reported for both treatment groups (Alterman et al., 2004). No significant difference in substance use, drug screens, and psychological health were found between groups (Alterman et al., 2004). However, the meditation group reported significant health improvements (Alterman et al., 2004). The study has a limited sample size and above average length of treatment. The residents remained in treatment for over a year. The average length of treatment is 28 day and length of treatment is positively correlated with abstinence rates (Neff, Shorkey, & Windsor, 2006). This may have contributed to the lack of treatment effects for the meditation group.

In addition, the treatment program in this study was spirituality based, and spirituality based programs frequently offer group prayer (Hodge & Pittman, 2003). The treatment effects of prayer are similar to the treatment effects of meditation, negating the effectiveness of the meditation intervention. There were also differences in the application of the interventions used in this study compared to the VM technique used by Bowen, Witkiewitz, & Dillworth et al. (2006). The VM course was conducted by an instructor for 11 hours over a 10-day period. The meditation in this study was conducted by an instructor once per week for two hours and for one seven-hour day. Conflicting



results may reflect the total number of hours during which the participants received instruction.

**Summary.** In summary, there is sufficient evidence supporting meditation based programs in the treatment of substance abuse. Meditation interventions have a small to moderate effect on substance abuse rates. Overall, meditation reduces substance use, the effect of stressors, and improves mental and physical health. In fact, the positive effect of meditation on addictive behaviors may be due to the positive effects of meditation on health as a whole. Meditations techniques could be taught during inpatient and outpatient treatment to increase the number of effective coping strategies available to the patients. However, it is important to use a well-researched meditation technique when implementing meditation into any treatment program.

### **Prayer-Based Research**

Prayer appears in western and eastern world religions. Prayer is versatile and takes on many different meaning to many different peoples. Faith-based treatment programs view prayer as an integral part of the recovery process. In a study by Hodge and Pittman (2003), 77% of 30 faith-based programs offered prayer meetings. Frequency of prayer is commonly measured using self-report measures that incorporate prayer as a component of the survey. Studies using prayer as an intervention are rare. However, in this report, I will review one four part empirical study of prayer and one descriptive study of prayer.

**Empirical Study One.** Lambert, Fincham, Marks, and Stallman (2010) conducted four methodologically diverse studies on prayer frequency and alcohol consumption. The first was a simple correlational study between prayer and alcohol consumption and no

intervention was used. The sample consisted of 824 undergraduate students in a romantic relationship. Prayer was measured using a three-item Likert-type survey asking the following questions: 1) I pray daily; 2) I pray before I go to sleep; 3) I usually say a prayer before each meal (Lambert et al., 2010, p. 211). Alcohol consumption was assessed using a self-report questionnaire asking participants, “Within the last 30 days, on how many days did you have a drink containing alcohol”, and “How many drinks containing alcohol did you have on a typical day when you were drinking” (Lambert et al., 2010, p. 211). Higher rates of prayer were correlated with lower alcohol consumption (Lambert et al., 2010).

***Empirical Study Two.*** In a second part of the study by Lambert et al. (2010), longitudinal data were collected for prayer frequency and alcohol consumption with 643 undergraduate students from the first study participating. Measures from the first part of the study were used to assess prayer frequency and alcohol consumption. Frequency of prayer at Time 1 (baseline) was related to frequency of prayer at Time 2 (3 months), when controlled for frequency of prayer and alcohol consumption at baseline (Lambert et al., 2010).

***Empirical Study Three.*** In the third part of Lambert et al. (2010) study, researchers tested the causal relationship between prayer frequency and alcohol consumption. Participants were 117 undergraduate students in a romantic relationship who reported at least a minimal level of previous prayer. The Alcohol Consumption Index was used, but it was adapted to reflect drinking in the previous week instead of in the previous months. Initial prayer frequency was assessed by the question “I pray daily”

(Lambert et al., 2010, p. 211). The treatment involved asking participants either to pray on topics regarding their romantic relationships or on a topic of their choice, with 61 patients assigned to the prayer condition for four weeks. Participants in the control condition (56) were asked to write about romantic topics or neutral topics. The study lasted for four weeks. Results showed a 50% decrease in alcohol consumption for those in the prayer groups (Lambert et al., 2010).

***Empirical Study Four.*** The final study in the Lambert et al. (2010) study, study four was a replication of the third study. Participants were 115 undergraduates in a romantic relationship who reported at least minimal levels of previous prayer. The prayer conditions varied slightly from Study three. Participants in the prayer conditions were asked to pray for five friends or family member for four weeks. Participants in the control conditions were asked to think positive thoughts about five friends or family member and write about it once per week, or they were asked to pay close attention to daily activities and write about it once per week. Fifty-two participants were assigned to prayer condition and 63 participants were assigned to the control conditions. The results were consistent with study three; alcohol consumption was reduced by about 50% (Lambert et al., 2010, p. 211).

The inverse relationship between prayer and alcohol use proved to be consistent overtime and verifiable through replication. The Lambert et al. (2010) study is well designed and provides evidence that prayer is a coping skill capable of reducing

substance use. The study sample was limited to undergraduate students in a romantic relationship.

***Descriptive study.*** Finally, I want to provide a summary of a descriptive study by Elisheikh (2008). This study examined the factors contributing to long-term abstinence. Long-term abstinence was defined as having completed a behavior modification and/or rehabilitation program, participating in extended care programs, and remaining abstinent for the consecutive months. A 35-item Likert-type survey was given to assess general coping skills, quality of life, and treatment program evaluation. Study participants consisted of 62 (predominantly male) patients who completed treatment at an inpatient facility and continued to receive outpatient treatment for the following three months. Eighty-five percent of patients reported that regular prayer was a very effective coping skill used to resist substance use (Elisheikh, 2008). Approximately 75% of respondents reported improvements in quality of life (Elisheikh, 2008). They also reported improved physical health (81%), mental health (64%), and social/family relations (88%) (Elisheikh, 2008). Study limitations included: self-selection sampling bias, relying on questionnaires, small sample size, and a predominantly male population.

***Summary.*** Overall, the results of these studies indicate that prayer reduces substance use. The positive effects of prayer have been shown to be consistent over time, and they are replicable. Patients that were successful three months after treatment reported praying regularly, and they perceived prayer to be an effective tool. Prayer is a coping strategy with data to support its usefulness in the treatment for addiction

## **Conclusion**

In general, meditation and prayer have been associated with substance abuse rates. However, some studies show no significant reductions in substance use as a result of meditation. This may be the result of the type and intensity of meditation implemented. Few studies using prayer as an intervention have been conducted. However, in an intervention study by Lambert et al. (2010), prayer significantly reduced substance use. In general, studies are limited by self-selection bias (few studies used true random assignment), and reliance on self-report measures.

The addition of mindfulness-based meditation, transcendental meditation, and prayer to addiction recovery programs can aid substance users with the chore of replacing old unhealthy behaviors with new healthy ones. Meditation and prayer are tools capable of reducing triggers and stressors. Substance users are able to rethink their choices and gain the strength to make better decisions. This requires dedication on the part of the individual (Pruet et al., 2007). Through vigilant meditation and prayer, substance users may be able to develop new coping strategies.

## **Chapter 5**

### **Discussion and Conclusion**

#### **Discussion**

I set out to review literature that investigated the association between spirituality/religiosity and substance abuse. First, the definition of addiction and the instruments used to measure addiction were reviewed. Next, the definitions of spirituality and religiosity were discussed and measures of each were reviewed. Finally, research studies evaluating the relationship between spirituality/religiosity and substance abuse were presented.

In reviewing the literature, it is recommended that future studies utilize the Addiction Severity Index (ASI) as the primary measure of substance abuse. ASI provides scores relating to severity of symptoms, and it converges with the classifications of substance abuse and substance dependence defined in the DSM-IV. Therefore, the ASI is the optimum choice for qualifying and quantifying addiction severity. However, the ASI does require a trained interviewer to administer. This may present a financial burden research beyond the cost of simple self-report screens, but the benefits outweigh the costs. ASI scores provide additional information that can be used to explaining more of the variance in treatment outcomes.

Spirituality and religiously can be defined and measured much like depression and quality of life. Spirituality is generally viewed as an internal and private connection to

the transcendent. Instruments measuring spirituality have been psychometrically tested and correlated with substance use rates. Measures like the Christian Inventory of Spirituality (CSI) not only measures levels of spirituality but also spiritual growth. This type of measure holds much promise for the future of longitudinal research in this area. Religiosity is generally viewed as external and public. It is often measured by the frequency of religious attendance and/or prayer. These simple self-report audits are correlated with substance use rates. Therefore, both types of instruments should be utilized in future studies.

In general, researchers have associated measures of spirituality, religiosity, meditation, and prayer to lowered substance use. The majority of studies found that some dimension of spirituality and religiosity reduced the risk of substance use among those who are addicted to drugs/alcohol and those who are at risk of substance abuse. Meditation and prayer are spiritual interventions that can be empirical studies and have been found to be effective in reducing substance use. However, it is important to consider the meditation technique being implemented. Vipassana mindfulness-based meditation and Transcendental meditation have been found to have significant treatment effects, while others have not.

An ideal study would evaluate the effectiveness of Vipassana mindfulness-based meditation, Transcendental meditation, and prayer on preventing relapse following an intensive substance abuse treatment program. Patients would be randomly assigned to one of three treatment conditions or a control condition. Addiction severity would be measured using the ASI at baseline, completion of treatment program, and at 6-month

follow-up. Spirituality would be measured using the CSI at baseline, completion of treatment program, and at 6-month follow-up. Religiosity would be measured using a self-report survey of frequency of religious attendance, prayer, faith-based volunteer activities, religious group activities, religious studies in groups or individually, religious meditation, and total hours spent on religious activities or thoughts per day at baseline, completion of treatment program, and at 6-month follow-up. ASI scores, CSI scores, and religious survey data would be compared across time and conditions.

Based upon previous research, I would expect scores on the ASI to decrease significantly and scores on the CSI to increase significantly overtime for those in the treatment groups. I would expect no significant correlation between the ASI and the CSI for those in the control condition. I would also expect higher rates of abstinence across all treatment groups and lower rates of substance use at 6-month follow-up for those with frequent religious involvement. It is unclear if there would be a significant difference between treatment conditions. However, it would be practical to determine if one intervention is more effective than the other in reducing substance use and implement this intervention a part of as a comprehensive substance abuse treatment program.

## **Issues**

The majority of the findings I have reported indicated that spirituality reduced substance use, but this is not always the case. For example, Sussman (2006) investigated drug specific spiritual beliefs and their relationship to substance use. Participants were given a questionnaire designed to differentiate between two spirituality constructs, drug-use specific spirituality (DUSS) and non-drug-use specific spirituality (NDUSS). Drug-



use specific spirituality measures the belief that drug use promotes spiritual experiences. The study found that high drug use specific spirituality scores were related to higher frequency of use for cigarette and hallucinogen. Conversely, high non-drug specific spirituality score were related to lower frequency of use for alcohol, marijuana, and stimulants. These findings evoke questions regarding the nature of spiritual beliefs and their relationship to drug use. For example, are spirituality and drug use mutually exclusive? Do some spiritual beliefs increase the use of specific substances, but not others? These issues should be addressed in order to bring a greater level of clarity and unity to this field of research. Future research might focus on refining the existing measures of spirituality to include questions that discriminate between drug specific and non-drug specific beliefs.

## **Conclusion**

In conclusion, researchers have established a connection between spirituality/religion and substance use. The majority of research findings report a negative relationship between substance use and spirituality/religiosity. These results indicated that spiritual and religious well-being improves abstinence rates among substance abusers and reduces substance use among non-substance abusers. Given the number of underserved substance abusers and the high cost of treatment, incorporating spiritual/religious practices like group prayer and meditation could provide individuals with the healthy coping skills needed to overcome their addictions and find greater life satisfaction.

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